

Serial No.: 09/580,223

REMARKS

Claims 1-13 are pending in the application. Favorable reconsideration of the application is respectfully requested.

I. OBJECTION TO THE DRAWINGS

Applicants note the objection to the drawings. Formal drawings will be provided prior to payment of the issue fee.

II. REJECTION OF CLAIMS 1-10 BASED ON OBVIOUSNESS-TYPE DOUBLE PATENTING

Claims 1-10 are rejected under the judicially created doctrine of obviousness-type double patenting. In particular, the Examiner contends that claims 1 and 7-9 claim substantially the same invention as claim 1 of USP 6,021,266 to Kay. Claims 2-6 are said to be directed to substantially the same invention as claim 2 of Kay '266. Claim 10 of the present application is said to be directed to substantially the same invention as claim 10 of Kay '266. This rejection is respectfully traversed for at least the following reasons.

Claim 1 of the present application reads as follows:

- (a) 1. A method of transferring data from a sender process to a plurality of receiver processes,
- (b) wherein at least one of said processes is described in a hardware description language,
- (c) said hardware description language incorporating simulation means for simulation of the behaviour of hardware and also incorporating a hardware compiler for deriving hardware which behaves according to said simulation,
- (d) characterised in that the method uses a language construct which effects synchronised communication between the sender process and the receiver processes.

(a) The present invention relates to a method of *transferring data* from a sender process to a plurality of receiver processes. Claim 1 of Kay '266 is directed to a method of *designing an integrated circuit*. The inventions are completely different.

(b) Claim 1 of the present application refers to at least one of the processes being described in a hardware description language. Claim 1 of Kay '266 refers to

Serial No.: 09/580,223

"defining functions of the integrated circuit in a programming language which supports parallelism and synchronized communication." A "process described in a hardware description language" is not substantially identical to a "function defined in a programming language which supports parallelism and synchronized communication". The inventions are completely different.

(c) Claim 1 of the present application refers to the hardware description language incorporating simulation means for simulation of the behaviour of hardware and also incorporating a hardware compiler for deriving hardware which behaves according to said simulation. Claim 1 of Kay '266 refers to *applying* a compiler which is arranged to retime the synchronized communication without changing the order of external communication, etc. Applicants note that "applying a compiler" is not substantially the same invention as "hardware description language incorporating simulation means for simulation of the behaviour of hardware and also incorporating a hardware compiler for deriving hardware which behaves according to the simulation". Again, the inventions are completely different.

(d) Claim 1 of the present application refers to the method using a "language construct which effects synchronised communication between the sender process and the receiver processes". Claim 1 of Kay '266 refers to "applying a compiler which is arranged to retime the synchronized communication without changing the order of external communication". A "language construct which effects synchronised communication between the sender process and the receiver processes" is not substantially the same invention as "applying a compiler which is arranged to retime the synchronized communication without changing the order of external communication".

In view of the above, applicants respectfully submit that claim 1 of the present application claims a substantially different invention than that claimed in claim 1 of Kay '266. Whether the elements of the claims are viewed side by side or in combination,

Serial No.: 09/580,223

the claims are not directed to substantially the same invention. Withdrawal of the rejection of claim 1 and claims 2-10, dependent therefrom, is respectfully requested.

III. REJECTION OF CLAIMS 1-13 UNDER 35 USC §102(b)

Claims 1-13 stand rejected under 35 USC §102(b) based on *Kay (UK Patent App. 2,317,245)* (hereinafter *Kay '245*).¹ This rejection is respectfully traversed for at least the following reasons.

As outlined above in Section II, the present invention and *Kay '245* are directed to different inventions. Not only is this true with respect to how the inventions are claimed as pointed out above, but also with respect to what is described in the specification of *Kay '245* versus the present invention as claimed.

For example, claim 1 of the present application defines a method for transferring data from a sender process to a plurality of receiver processes. The method uses a language construct which effects synchronised communication between the sender process and the receiver processes. Similarly, claim 11 refers to hardware description language including a language construct which effects synchronised communication between the sender process and the receiver processes.

In other words, claims 1 and 11 both refer to transferring data in which a single send can be matched by a plurality of receives. Synchronized communication may be effected between the sender process and the plurality of receiver processes. *Kay '245* does not teach or suggest such "one-to-many" type of send-receive communication as recited in present claims 1 and 11. Rather, *Kay '245* teaches only a "one-to-one" type of send-receive communication. Each send is matched by only one receive. There is no construct for effecting synchronized communication between a sender process and a plurality of receiver processes.

Accordingly, *Kay '245* does not teach or suggest every element of claims 1, 11, or the claims dependent therefrom. Withdrawal of the rejection is respectfully requested.

¹Applicants note that *Kay '245* is the priority document for *Kay '266*.

Serial No.: 09/580,223

Furthermore, regarding claims 5 and 6 the Examiner appears to believe that the terms "pre-emptive scheduling" and "descheduled" are related to the scheduler mentioned in Kay '245. However, in claims 5 and 6 of the present application applicants are referring to statically scheduling hardware operations so that they will occur in particular clock cycles in the final product. In Kay '245, software simulation of a design is discussed using a "pre-emptive scheduler" that is used to simulate a parallel design on a sequential computer by allocating time to each of the parallel components. Such "scheduler" terminology is standard in both fields, however the terms are referring to different hardware/software operations in the present application and Kay '245, respectively.

For at least the above reasons, withdrawal of the rejection of claims 1-13 is respectfully requested.

IV. CONCLUSION

Accordingly, all claims 1-13 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.


Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Serial No.: 09/580,223

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP


Mark D. Saralino
Reg. No. 34,243

DATE: September 19, 2003

The Keith Building
1621 Euclid Avenue
Nineteenth Floor
Cleveland, Ohio 44115
(216) 621-1113
C:\GENYAMA\yarnap713.amd.wpd

RECEIVED
CENTRAL FAX CENTER

SEP 22 2003

OFFICIAL